

## NATURAL RESOURCES CONSERVATION SERVICE

### CONSERVATION PRACTICE STANDARD

## MULCHING

(Acre)

CODE 484

### DEFINITION

Applying plant residues, by-products, or other suitable materials produced off-site and applied to the land surface.

### PURPOSE

This practice may be applied as part of a resource management system to support one or more of the following purposes:

- Conserve soil moisture.
- Moderate soil temperature.
- Provide erosion control.
- Suppress weed growth.
- Establish vegetative cover.
- Improve soil condition or increase soil fertility and organic matter.

### CONDITIONS WHERE PRACTICE APPLIES

This practice applies to all lands where mulches are needed. This practice may be used alone or in combination with other practices.

### CRITERIA

#### General Criteria Applicable to All Purposes

The selection of mulching materials will depend primarily on site conditions, purpose, and the material's availability. Mulch materials shall consist of natural and/or artificial materials such as plant residue, wood bark or chips, by-products, gravel, plastic, fabric, animal manure, rice hulls, and materials from food processing plants or other equivalent materials of sufficient dimension (depth or thickness) and durability to achieve the intended purpose for the required time period.

Mulching is generally performed after grading and soil surface preparations are complete. Soil surface shall be prepared in order to achieve the desired purpose.

Manufactured mulches shall be applied according to the manufacturer's specifications.

Mulch material shall be free of disease, noxious weed seeds, and other pests and pathogens.

### CONSIDERATIONS

Consider the effects of mulching on evaporation, infiltration, and runoff. Mulch material may affect microbial activity in the soil surface, increase infiltration, and decrease runoff, erosion, and evaporation. Increased infiltration may increase nutrient and chemical transport below the root zone. The temperature of the surface runoff may also be lowered.

Mulched soil retains moisture, requires less watering, and reduces the chance of water stress on plant materials. Mulch also minimizes evaporation from the soil surface and hence reduces losses from bare soil areas.

Mulch materials high in organic matter with a high water holding capacity and high impermeability to water droplets may adversely affect the water needs of plants.

Mulch application rates should be determined using current erosion prediction technology to reach the soil erosion objective.

Clear and wavelength selective (IRT) plastics have the greatest warming potential. They are transparent to incoming radiation and trap the longer wavelengths radiating from the soil. Black mulches are limited to warming soils by conduction only and are less effective.

Clear mulches allow profuse weed growth and may negate the benefits of soil warming. Black mulches provide effective weed control. Wavelength selective (IRT) blend the soil warming characteristics of clear mulch with the weed control ability of black mulch.

Consider potential toxic effects that mulch material may have on other organisms. Animal and plant pest species may be incompatible with the site.

Consider federal and/or state listed Rare, Threatened, or Endangered species when applying this practice.

Weed seed may be found in the mulch material. Weed growth should not interfere with the intended purpose or escape through the mulch material.

Consider the carbon and nitrogen (C:N) ratio of the mulch materials in the nutrient budget.

Consider the potential for increased pathogenic activity within the applied mulch material.

Deep mulch provides nesting habitat for ground-burrowing rodents that can chew extensively on bark around the trunk and/or tree roots. Apply light mulch and wait until the first cold spell before mulching to prevent rodents from nesting.

Keep mulches 3 to 6 inches away from plant stems and crowns to prevent rot and pest problems.

## **PLANS AND SPECIFICATIONS**

Specifications shall be prepared for each site and purpose and recorded using approved specification sheets, job sheets, technical notes, and narrative statements in the conservation plan, or other acceptable documentation.

Documentation shall include:

- Type of mulch material used.
- Percent cover and/or weight of mulch material.
- Timing of application.
- Site preparation.
- Listing of netting, tackifiers, or method of anchoring.
- Operation and maintenance.

## **OPERATION AND MAINTENANCE**

Mulched areas will be periodically inspected, and mulch shall be reinstalled or repaired as needed until plants are adequately established.

Removal, incorporation, bio- or photo-degradation of much and associated materials shall be consistent with the intended purpose and site conditions.

Operation of equipment near and on the site shall not compromise the intended purpose of the mulch.

Prevent any fire damage to the mulch material.

Properly collect and dispose of artificial mulch material after plants are adequately established.